

INDEX TO VOLUME XXIII

SUBJECTS

	PAGE
ABSORPTION Spectra in Relation to Physico-Chemical Processes, Ultra-Violet. <i>E. C. C. Baly and C. H. Desch</i> - - - - -	110
<i>Algol</i> System, Note on. <i>R. J. A. Barnard</i> - - - - -	406
<i>Aquilae, Nova</i> , No. 2, Spectrum of. <i>J. H. Moore</i> - - - - -	261
ASTEROIDS, New Method for Discovery of. <i>Joel H. Metcalj</i> - - - - -	306
ASTRONOMICAL and Astrophysical Society of America - - - - -	166
BRIGHTNESS of Ultra-Violet Light on Sun's Disk, Distribution of. <i>K. Schwarzschild and W. Villiger</i> - - - - -	284
BROADENING, Doubling, and Reversal, Theory of. Line Structure, II. <i>P. G. Nutting</i> - - - - -	220
CALCIUM Vapor in the Sun, Motion of. <i>Walter S. Adams</i> - - - - -	45
<i>Castor</i> , The System of. <i>Heber D. Curtis</i> - - - - -	351
DESLANDRES, M., Reply to Recent Statements by. <i>George E. Hale</i> - - - - -	92
DIFFRACTION Grating Replicas. <i>Robert James Wallace</i> - - - - -	96
DISCOVERY of Asteroids, New Method for. <i>Joel H. Metcalj</i> - - - - -	306
DISTRIBUTION of Brightness of the Ultra-Violet Light on Sun's Disk. <i>K. Schwarzschild and W. Villiger</i> - - - - -	284
DOUBLING, Broadening, and Reversal, Theory of. Line Structure, II. <i>P. G. Nutting</i> - - - - -	220
ECLIPSE of August 30, 1905, Solar. <i>John A. Miller</i> - - - - -	93
Expedition in 1905, Preliminary Results of United States Naval Observatory. <i>Colby M. Chester</i> - - - - -	128
Solar, of August 30, 1905, Observations Made With Selenium Cells. <i>Th. Wulj and J. D. Lucas</i> - - - - -	153
ERRATA - - - - -	180
EXPEDITION to Southern Hemisphere, The D. O. Mills. <i>W. W. Campbell</i> - - - - -	269
FACULÆ and Sun-Spots, Ultra-Violet Radiation of. <i>K. Schwarzschild and W. Villiger</i> - - - - -	345
FIGURE of the Sun, Remarks on Mr. C. L. Poor's Papers on. <i>L. Ambronn</i> - - - - -	343
FIVE-Foot Spectroheliograph of the Solar Observatory. <i>George E. Hale and Ferdinand Ellerman</i> - - - - -	54
FORMULÆ for Distribution of Spectrum Lines in Series, Recent. <i>T. S. Elston</i> - - - - -	162
FOURTH-Type Stars, Relation Between the Spectra of Sun-Spots and. <i>Walter M. Mitchell</i> - - - - -	211
GRATING Replicas, Diffraction. <i>Robert James Wallace</i> - - - - -	96

	PAGE
HEMISPHERE, D. O. Mills Expedition to Southern. <i>W. W. Campbell</i>	269
HYDROGEN, Spectrum of, in Region of Extremely Short Wave-length.	
<i>Theodore Lyman</i>	181
LANGLEY, Samuel Pierpont. <i>C. G. Abbot</i>	271
LINE Structure, I. <i>P. G. Nutting</i>	64
Structure, II. Theory of Broadening, Doubling, and Reversal. <i>P. G. Nutting</i>	220
LINES, H and K, and Motion of Calcium Vapor in the Sun. <i>Walter S. Adams</i>	45
In the Spectra of Red Stars, Sun-Spot. <i>George E. Hale and Walter S. Adams</i>	400
LUMINOSITY of Brightest Stars. <i>George C. Comstock</i>	248
METHOD Proposed for the Determination of Radial Velocities of Stars.	
<i>George C. Comstock</i>	148
For Discovery of Asteroids, New. <i>Joel H. Metcalf</i>	306
For Determining Rate of Decrease of Radiating Power from the Center toward the Limb of the Solar Disk. <i>W. H. Julius</i>	312
MILLS, D. O., Expedition to the Southern Hemisphere. <i>W. W. Campbell</i>	269
NAVAL Observatory Eclipse Expedition in 1905, Preliminary Results of. <i>Colby M. Chester</i>	128
NEBULA near π and δ <i>Scorpii</i> , Great Photographic. <i>E. E. Barnard</i>	144
NEWCOMB's Observations of the Zodiacal Light. <i>E. E. Barnard</i>	168
<i>Nova Aquilae</i> No. 2, Spectrum of. <i>J. H. Moore</i>	261
OBJECTIVE-Prism Comparison Spectrograph. <i>De Lisle Stewart</i>	396
OBSERVATORY, Solar, Five-Foot Spectroheliograph of. <i>George E. Hale and Ferdinand Ellerman</i>	54
PERIODICITY of Sun-Spots. <i>Arthur Schuster</i>	101
PHOTOMETRY of Short-Period Variable Stars, Photographic. <i>J. A. Parkhurst and F. C. Jordan</i>	79
PHYSICO-Chemical Processes in Relation to Ultra-Violet Absorption Spectra. <i>E. C. C. Baly and C. H. Desch</i>	110
POOR's, C. L., Paper on the Figure of the Sun, Remarks on. <i>L. Ambronn</i>	343
PRESSURE-Shift and Width of Spectrum Lines, Attempt to Find Cause of. <i>W. J. Humphreys</i>	233
PRISMS, Determination of Radial Motions by Objective. <i>Edward C. Pickering</i>	255
QUARTZ Spectrograph, A Large. <i>Percival Lewis</i>	390
RADIAL Velocities of Stars, Proposed Method for Determination of. <i>George C. Comstock</i>	148
Motions by Objective-Prisms, Determination of. <i>Edward C. Pickering</i>	255
Velocities are Variable, List of Four Stars Whose. <i>J. H. Moore</i>	263
RADIATING Power from Center Toward the Limb of the Solar Disk, New Method for Determining Rate of Decrease of. <i>W. H. Julius</i>	312

	PAGE
RADIATION of Radium, Spectrum of the Spontaneous Luminous. IV.	
<i>Sir William and Lady Huggins</i> - - - - -	152
Of Sun-Spots and Faculæ, Ultra-Violet. <i>K. Schwarzschild and W. Villiger</i> - - - - -	345
RADIUM, Spectrum of the Spontaneous Luminous Radiation of. IV.	
<i>Sir William and Lady Huggins</i> - - - - -	152
RED Stars, Sun-Spot Lines in Spectra of. <i>George E. Hale and Walter S. Adams</i> - - - - -	400
REFLECTING Telescopes of Relatively Short Focus. <i>H. C. Vogel</i> - - -	370
REPLICAS, Diffraction Grating. <i>Robert James Wallace</i> - - - -	96
REPLY to Recent Statements by M. Deslandres. <i>George E. Hale</i> - -	92
RESEARCH, Program of Solar. <i>George E. Hale</i> - - - - -	I
REVERSAL, Broadening, and Doubling, Theory of. Line Structure, II.	
<i>P. G. Nutting</i> - - - - -	220
REVIEWS, See Table of Contents.	
RULING Machines, Present Condition of Rowland's. <i>J. S. Ames</i> - -	348
π and δ <i>Scorpii</i> , Great Photographic Nebula near. <i>E. E. Barnard</i> - -	144
SELENIUM Cells, Observations Made With, During Total Solar Eclipse of August 30, 1905. <i>Th. Wulf and J. D. Lucas</i> - - -	153
SERIES, Recent Formulæ for Distribution of Spectrum Lines in. <i>T. S. Elston</i> - - - - -	162
Theory for Distribution of Spectral Lines in. <i>T. S. Elston</i> - -	346
SNOW Telescope, Some Tests of. <i>George E. Hale</i> - - - - -	6
SOLAR Research, Program of. <i>George E. Hale</i> - - - - -	I
Observatory, Five-Foot Spectroheliograph of. <i>George E. Hale and Ferdinand Ellerman</i> - - - - -	54
Eclipse of August 30, 1905. <i>John A. Miller</i> - - - - -	93
Eclipse of August 30, 1905, Observations Made With Selenium Cells. <i>Th. Wulf and J. D. Lucas</i> - - - - -	153
Disk, New Method for Determining Rate of Decrease of Radiating Power from the Center toward the Limb of. <i>W. H. Julius</i> - -	312
SPECTRA of Sun-Spots, Photographic Observations of. <i>George E. Hale and Walter S. Adams</i> - - - - -	11
In Relation to Physico-Chemical Processes, Ultra-Violet Absorption. <i>E. C. C. Baly and C. H. Desch</i> - - - - -	110
Of Sun-Spots and Fourth-Type Stars, Relation between. <i>Walter M. Mitchell</i> - - - - -	211
Stars Having Peculiar. Thirteen New Variable Stars. <i>Edward C. Pickering</i> - - - - -	257
Of Sulphur Dioxide. <i>Frances Lowater</i> - - - - -	324
Of Red Stars, Sun-Spot Lines in. <i>George E. Hale and Walter S. Adams</i> - - - - -	400
SPECTRAL Lines in Series, Theory for Distribution of. <i>T. S. Elston</i> -	346

	PAGE
SPECTROGRAPH, A Large Quartz. <i>Percival Lewis</i> - - - - -	390
Objective-Prism Comparison. <i>De Lisle Stewart</i> - - - - -	396
SPECTROGRAPHIC Observations. <i>Edwin B. Frost</i> - - - - -	264
SPECTROHELIOGRAPH of the Solar Observatory, The Five-Foot. <i>George E. Hale</i> and <i>Ferdinand Ellerman</i> - - - - -	54
SPECTRUM of the Spontaneous Luminous Radiation of Radium. IV. <i>Sir William</i> and <i>Lady Huggins</i> - - - - -	152
Lines in Series, Recent Formulæ for Distribution of. <i>T. S. Elston</i> -	162
Of Hydrogen in the Region of Extremely Short Wave-Length. <i>Theodore Lyman</i> - - - - -	181
Lines, Attempt to Find Cause of Width and Pressure-Shift of. <i>W. J. Humphreys</i> - - - - -	233
Of Nova Aquilæ No. 2. <i>J. H. Moore</i> - - - - -	261
STARS, Photographic Photometry of Short-Period Variable. <i>J. A. Parkhurst</i> and <i>F. C. Jordan</i> - - - - -	79
Proposed Method for Determination of Radial Velocities of. <i>George C. Comstock</i> - - - - -	148
Relation Between the Spectra of Sun-Spots and Fourth-Type. <i>Walter M. Mitchell</i> - - - - -	211
Luminosity of Brightest. <i>George C. Comstock</i> - - - - -	248
Having Peculiar Spectra. Thirteen New Variable Stars. <i>Edward C. Pickering</i> - - - - -	257
Sun-Spot Lines in Spectra of Red. <i>George E. Hale</i> and <i>Walter S. Adams</i> - - - - -	400
STRUCTURE, Line, I. <i>P. G. Nutting</i> - - - - -	64
Line, II. Theory of Broadening, Doubling, and Reversal. <i>P. G. Nutting</i> - - - - -	220
SULPHUR Dioxide, Spectra of. <i>Frances Lowater</i> - - - - -	324
SUN, H and K Lines and Motion of Calcium Vapor in. <i>Walter S. Adams</i> -	45
Remarks on Mr. C. L. Poor's Papers on Figure of. <i>L. Ambrohn</i> -	343
SUN's Disk, Distribution of Brightness of Ultra-Violet Light on. <i>K. Schwarzschild</i> and <i>W. Villiger</i> - - - - -	284
SUN-Spot Lines in the Spectra of Red Stars. <i>George E. Hale</i> and <i>Walter S. Adams</i> - - - - -	400
SUN-Spots, Photographic Observations of Spectra of. <i>George E. Hale</i> and <i>Walter S. Adams</i> - - - - -	11
Periodicity of. <i>Arthur Schuster</i> - - - - -	101
And Fourth-Type Stars, Relation between the Spectra of. <i>Walter M. Mitchell</i> - - - - -	211
And Faculæ, Ultra-Violet Radiation of. <i>K. Schwarzschild</i> and <i>W. Villiger</i> - - - - -	345
SYSTEM, Note on the Algol. <i>R. J. A. Barnard</i> - - - - -	406
Of Castor. <i>Heber D. Curtis</i> - - - - -	351

	PAGE
TELESCOPE, Some Tests of the Snow. <i>George E. Hale</i> - - - -	6
TELESCOPES of Relatively Short Focus, Reflecting. <i>H. C. Vogel</i> - -	370
TESTS of the Snow Telescope. <i>George E. Hale</i> - - - -	6
THEORY for Distribution of Spectral Lines in Series. <i>T. S. Elston</i> - -	346
ULTRA-Violet Absorption Spectra in Relation to Physico-Chemical Processes. <i>E. C. C. Baly</i> and <i>C. H. Desch</i> - - - -	110
Light on Sun's Disk, Distribution of Brightness of. <i>K. Schwarzschild</i> and <i>W. Villiger</i> - - - -	284
Radiation of Sun-Spots and Faculae. <i>K. Schwarzschild</i> and <i>W. Villiger</i> - - - -	345
UNITED States Naval Observatory Eclipse Expedition in 1905, Preliminary Results of. <i>Colby M. Chester</i> - - - -	128
VARIABLE Stars, Photographic Photometry of Short-Period Stars. <i>J. A. Parkhurst</i> and <i>F. C. Jordan</i> - - - -	79
Stars, Thirteen New. <i>Edward C. Pickering</i> - - - -	257
VELOCITIES of Stars, Radial, Proposed Method for Determination of. <i>George C. Comstock</i> - - - -	148
Are Variable, List of Four Stars Whose Radial. <i>J. H. Moore</i> - -	263
WAVE-Length, Spectrum of Hydrogen in Region of Extremely Short. <i>Theodore Lyman</i> - - - -	181
WIDTH and Pressure-Shift of Spectrum Lines, Attempt to Find Cause of. <i>W. J. Humphreys</i> - - - -	233
ZODIACAL Light, Professor Newcomb's Observations of. <i>E. E. Barnard</i>	168

INDEX TO VOLUME XXIII

AUTHORS

	PAGE
ABBOT, C. G. Samuel Pierpont Langley - - - - -	271
ADAMS, WALTER S. Some Notes on the H and K Lines and the Motion of the Calcium Vapor in the Sun - - - - -	45
ADAMS, WALTER S., and GEORGE E. HALE, Photographic Observations of the Spectra of Sun-Spots - - - - -	11
Sun-Spot Lines in the Spectra of Red Stars - - - - -	400
AMBRONN, L. Remarks on Mr. C. L. Poor's Papers on the Figure of the Sun - - - - -	343
AMES, J. S. Review of: <i>Mathematical and Physical Papers</i> , G. G. Stokes	173
The Present Condition of Rowland's Ruling Machines - - -	348
BALY, E. C. C., and C. H. DESCH. Ultra-Violet Absorption Spectra in Relation to Physico-Chemical Processes - - - - -	110
BARNARD, E. E. A Great Photographic Nebula near π and δ <i>Scorpii</i> -	144
Note on Professor Newcomb's Observations of the Zodiacal Light -	168
BARNARD, R. J. A. Note on the <i>Algol</i> System - - - - -	406
CALLENDAR, PROFESSOR, Letter from - - - - -	167
CAMPBELL, W. W. Note on the D. O. Mills Expedition to the Southern Hemisphere - - - - -	269
CHESTER, COLBY M. Preliminary Results of the United States Naval Observatory Eclipse Expedition in 1905 - - - - -	128
COMSTOCK, GEORGE C. A Proposed Method for the Determination of Radial Velocities of Stars - - - - -	148
The Luminosity of the Brightest Stars - - - - -	248
CREW, HENRY. Review of: <i>Spectroscopy</i> , E. C. C. Baly - - - -	170
CURTIS, HEBER D. The System of <i>Castor</i> - - - - -	351
DESCH, C. H., and E. C. C. BALY. Ultra-Violet Absorption Spectra in Relation to Physico-Chemical Processes - - - - -	110
ELLERMAN, FERDINAND, and GEORGE E. HALE. The Five-foot Spectro- heliograph of the Solar Observatory - - - - -	54
ELSTON, T. S. Recent Formulæ for Distribution of Spectrum Lines in Series - - - - -	162
A Theory for Distribution of Spectral Lines in Series - - -	346
FROST, EDWIN B. Review of: <i>Beiträge zur Photochemie und Spectral- analyse</i> , J. M. Eder and E. Valenta - - - - -	171
Review of: <i>Newcomb-Engelmann's Populäre Astronomie</i> , H. C. Vogel	174

	PAGE
Review of: <i>An Introduction to the Study of Spectrum Analysis</i> , W. Marshall Watts - - - - -	177
Spectrographic Observations - - - - -	264
HALE, GEORGE E. A Program of Solar Research - - - - -	I
Some Tests of the Snow Telescope - - - - -	6
Reply to Recent Statements by M. Deslandres - - - - -	92
HALE, GEORGE E., and WALTER S. ADAMS. Photographic Observations of the Spectra of Sun-Spots - - - - -	II
Sun-Spot Lines in the Spectra of Red Stars - - - - -	400
HALE, GEORGE E., and FERDINAND ELLERMAN. The Five-foot Spectroheliograph of the Solar Observatory - - - - -	54
HUGGINS, SIR WILLIAM and LADY. On the Spectrum of the Spontaneous Luminous Radiation of Radium. IV. - - - - -	152
HUMPHREYS, W. J. An Attempt to Find the Cause of the Width and of the Pressure-Shift of Spectrum Lines - - - - -	233
J. Review of: <i>Handbuch der geographischen Ortsbestimmung für Geographen und Forschungsreisende</i> , Adolph Marcuse - - - - -	178
JORDAN, F. C., and J. A. PARKHURST. Photographic Photometry of Short-Period Variable Stars - - - - -	79
JULIUS, W. H. A New Method for Determining the Rate of Decrease of the Radiating Power from the Center toward the Limb of the Solar Disk - - - - -	312
LEWIS, PERCIVAL. A Large Quartz Spectrograph - - - - -	390
LOWATER, FRANCES. The Spectra of Sulphur Dioxide - - - - -	324
LUCAS, J. D., and TH. WULF. Observations Made with Selenium Cells during the Total Solar Eclipse of August, 1905 - - - - -	153
LYMAN, THEODORE. The Spectrum of Hydrogen in the Region of Extremely Short Wave-Length - - - - -	181
METCALF, JOEL H. A New Method for the Discovery of Asteroids - - - - -	306
MILLER, JOHN A. Solar Eclipse of August 30, 1905 - - - - -	93
MITCHELL, WALTER M. The Relation Between the Spectra of Sun-Spots and Fourth-Type Stars - - - - -	211
MOORE, J. H. Spectrum of <i>Nova Aquilae</i> No. 2 - - - - -	261
A List of Four Stars Whose Radial Velocities are Variable - - - - -	263
NUTTING, P. G. Line Structure, I - - - - -	64
Line Structure, II. Theory of Broadening, Doubling, and Reversal - - - - -	220
PARKHURST, J. A., and F. C. JORDAN. Photographic Photometry of Short-Period Variable Stars - - - - -	79
PICKERING, EDWARD C. Determination of Radial Motions by Objective-Prisms - - - - -	255
Stars Having Peculiar Spectra. Thirteen New Variable Stars - - - - -	257
REESE, STANLEY C. Review of: <i>Die Optischen Instrumente</i> , Moritz von Rohr - - - - -	176

	PAGE
SCHUSTER, ARTUHR. The Periodicity of Sun-Spots - - - -	101
SCHWARZSCHILD, K., and W. VILLIGER. On the Distribution of Brightness of the Ultra-Violet Light on the Sun's Disk - - - -	284
Note on the Ultra-Violet Radiation of Sun-Spots and Faculae - -	345
STEWART, DE LISLE. Objective-Prism Comparison Spectroscope - -	396
STILLHAMER, A. G. Review of: <i>Manual of Advanced Optics</i> , C. Riborg Mann - - - - -	175
VILLIGER, W., and K. SCHWARZSCHILD. Distribution of Brightness of the Ultra-Violet Light on the Sun's Disk - - - -	284
Ultra-Violet Radiation of Sun-Spots and Faculae - - - -	345
VOGEL, H. C. On Reflecting Telescopes of Relatively Short Focus - -	370
WALLACE, ROBERT JAMES. Diffraction Grating Replicas - - - -	96
WULF, TH., and J. D. LUCAS. Observations Made with Selenium Cells during the Total Solar Eclipse of August 30, 1905 - - - -	153

